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Docket 83891A/TJS  
Customer No. 01333

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**  
**BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES**

In re Application of

David L. Patton, et al

**METHOD FOR MARKING  
GEMSTONES WITH A UNIQUE  
MICRO DISCRETE INDICIA**

Serial No. 10/607,184

Filed June 26, 2003

Mail Stop APPEAL BRIEF-PATENTS  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA. 22313-1450

Group Art Unit: 2623  
Confirmation No. 6177  
Examiner: Brian Q. Le

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*Carol J. Murphy*  
Carol J. Murphy

*November 28, 2005*  
Date

Sir:

**APPEAL BRIEF TRANSMITTAL**

Enclosed herewith is Appellants' Appeal Brief for the above-identified application.

The Commissioner is hereby authorized to charge the Appeal Brief filing fee to Eastman Kodak Company Deposit Account 05-0225. A duplicate copy of this letter is enclosed.

Respectfully submitted,

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If the Examiner is unable to reach the Applicant(s) Attorney at the telephone number provided, the Examiner is requested to communicate with Eastman Kodak Company Patent Operations at (585) 477-4656.



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**APPEAL BRIEF PURSUANT TO 37 C.F.R. 41.37 and 35 U.S.C. 134**

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## **APPELLANT'S BRIEF ON APPEAL**

Appellant hereby appeals to the Board of Patent Appeals and Interferences from the Examiner's Final Rejection of claims 1-8, which was contained in the Office Action mailed July 1, 2005.

A timely Notice of Appeal was mailed September 29, 2005.

### **Real Party In Interest**

As indicated above in the caption of the Brief, the Eastman Kodak Company is the real party in interest.

### **Related Appeals And Interferences**

No appeals or interferences are known which will directly affect or be directly affected by or have bearing on the Board's decision in the pending appeal.

### **Status Of The Claims**

Claims 1-8 are pending in the application.

Appendix I provides a clean, double-spaced copy of the claims on appeal.

### **Status Of Amendments**

An initial Office Action was mailed on September 27, 2004. An Amendment in response to the initial Office Action was mailed on January 18, 2005. A final Office Action was mailed on July 1, 2005. An Amendment in response to the final Office Action was mailed on September 1, 2005. An Advisory Action was mailed on September 21, 2005. A Notice of Appeal was mailed on September 29, 2005. The claims stand as indicated in Appendix I.

### **Summary of Claimed Subject Matter**

The Appellant's invention relates to a method for reading micro-discrete indicia on a gemstone. *See at least* page 4, line 31 – page 5, line 1; Fig. 8. The invention includes locating the micro-discrete indicia on the gemstone. *See* page 8, lines 3-23; Figs. 7a-7b. The invention also includes reading the micro-discrete

indicia using near-field optics. *See* page 8, lines 20 – page 9, line 16; Figs. 8-9. Further, micro-discrete indicia is located by using predetermined coordinates associated with the indicia on the gemstone. *See* page 8, lines 3-23; Figs. 7a-7b.

### **Grounds of Rejection**

Whether the invention of claims 1-8 is unpatentable over Kaplan et al. (U.S. Pat. No. 6,211,484) in view of Kurihara et al. (“Fabrication of Functional Probes for Near-field Optic Microscopy”, *Laser and Electro-Optics*, 148-149 1997).

According to the Final Office Action, dated July 1, 2005, with respect to claims 1-8, Kaplan teaches a method for reading a micro-discrete indicia on a gemstone comprising locating the micro-discrete indicia on the gemstone. However, according to the Final Office Action, Kaplan does not explicitly teach the reading of micro-discrete indicia using near-field optics. Nevertheless, according to the Final Office Action, Kurihara teaches a material measurement (material reading)/polymer utilizing near-field optical microscopy. According to the Final Office Action, it would have been obvious to one of ordinary skill in the art to modify Kaplan according to Kurihara to provide micro-discrete indicia on gemstone to be able to provide “the reading (measurements) of micro-discrete indicia using near-field optics.” The rationale, according to the Final Office Action, is that this modification would improve processing.

### **Arguments**

**CLAIMS 1-8 ARE PATENTABLE OVER KAPLAN IN VIEW OF KURIHARA.**

- 1. CLAIMS 1-8 ARE PATENTABLE OVER KAPLAN IN VIEW OF KURIHARA BECAUSE KAPLAN AND KURIHARA, ALONE OR IN COMBINATION, FAIL TO SHOW ALL OF THE ELEMENTS RECITED IN CLAIMS 1-8.**

**a. KAPLAN DOES NOT DISCLOSE, EXPRESSLY OR INHERENTLY, AT LEAST READING MICRO-DISCRETE INDICIA USING NEAR-FIELD OPTICS AS RECITED IN CLAIM 1.**

According to Appellant's invention as recited in claim 1, Appellant's invention requires reading micro-discrete indicia using near-field optics. More specifically, when the micro-discrete indicia, such as a logo, a symbol and/or alphanumeric, is located, the micro-discrete indicia is read using near-field optics.

As admitted by the Final Office Action, Kaplan fails to teach or suggest at least reading micro-discrete indicia using near-field optics. Therefore, Appellant respectfully submits that claim 1 is patentable over Kaplan.

**b. KURIHARA DOES NOT DISCLOSE, EXPRESSLY OR INHERENTLY, AT LEAST READING MICRO-DISCRETE INDICIA USING NEAR-FIELD OPTICS AS RECITED IN CLAIM 1.**

Kurihara fails to remedy the deficiencies of Kaplan as Kurihara fails to teach or suggest at least at least reading micro-discrete indicia using near-field optics. Rather, Kurihara discloses fabricating functional probes for near-field optical microscopy. *See* page 148, paragraph two; *see also* Title. In the fabrication process, a polyvinyl chloride film is fixed on the apex of a probe and the film produces an ion-selective membrane that functions as a chemical sensor. *See* page 148, paragraph three.

Kurihara also discloses that by affixing polydiacetylene on the apex of a probe, "the probe has a large third-order nonlinear susceptibility resulting from one-dimensional  $\pi$ -conjugated electrons." *See* page 148, paragraph four. However, Kurihara states, that "[i]n near-field regions, optical processes of nonlinearity such as four-wave mixing and phase conjugation are not clear." *id.* Appellant submits that Four-wave mixing is the "phenomenon by which some wavelengths interact to create additional wavelengths." *See* NEWTON'S TELECOMMUNICATION DICTIONARY, 346 (2004). Also, phase conjugation in optics is "to precisely reverse the direction of propagation of each plane wave in

an arbitrary beam of light, thereby causing the return beam to exactly retrace the path of the incident beam.” MCGRAW-HILL DICTIONARY OF SCIENTIFIC AND TECHNICAL TERMS, 1401 (5<sup>th</sup> ed. 1994). Thus, Kurihara uses nonlinear probes as “tools to investigate [this] nonlinearity in near-field regions,” i.e., to investigate the behavior of lightwaves. See page 148, paragraph four.

Accordingly, Kurihara does not teach, expressly or inherently, reading micro-discrete indicia using near-field optics. Therefore, Appellant respectfully submits that claim 1 is patentable over Kurihara.

**c. CONCLUSION**

Therefore, Appellant respectfully submits that claim 1 is patentable over the cited references. Because claims 2-8 depend from claim 1 and include the features recited in the independent claim as well as additional features, Appellant respectfully submits that claims 2-8 are also patentably distinct over the cited references.

**2. CLAIMS 1-8 ARE PATENTABLE OVER KAPLAN IN VIEW OF KURIHARA BECAUSE KAPLAN AND KURIHARA ARE NOT PROPERLY COMBINABLE.**

**a. THE REFERENCES DO NOT PROVIDE A BASIS FOR THE COMBINATION OF REFERENCES.**

Appellant respectfully contends that a *prima facie* case of obviousness has not been established, as described more fully below. To establish a *prima facie* case of obviousness, three basic criteria must be met:

- 1) There must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings;
- 2) there must be a reasonable expectation of success; and
- 3) the prior art reference (or references when combined) must teach or suggest all the claim limitations.  
(M.P.E.P. §2142).

Appellant respectfully submits that the cited references do not teach or suggest all the claim limitations as discussed above.

Further, there must be some actual *motivation* to combine the Kaplan and the Kurihara references found in the references themselves, the knowledge of one of ordinary skill in the art or from the nature of the problem to be solved that would suggest the combination. Without a suggestion of the desirability of “the combination,” a combination of such references is made in hindsight, and the “range of sources available, however, does not diminish the requirement for actual evidence.” *In re Dembiczak*, 50 USPQ2d 1614 (Fed. Cir. 1999). It is a requirement that actual evidence of a suggestion, teaching or motivation to combine prior art references be shown, and that this evidence be “clear and particular.” *Id.* Broad conclusory statements regarding the teaching of multiple references, standing alone, are not evidence. *Id.*

It is respectfully submitted that Kaplan fails to provide any suggestion to implement or otherwise be combined with a method for fabricating functional probes using a capillary as described in Kurihara. Moreover, Kurihara fails to provide any suggestion to implement or otherwise be combined with a laser energy microinscribing system as described in Kaplan.

Thus, Appellant thus respectfully contends that a *prima facie* case of obviousness has not been established as no “clear and particular” evidence of motivation to combine can be identified.

More particularly, the Examiner noted that Kaplan “does not . . . teach the reading of micro-discrete indicia using near-field optic”, as discussed above. The Appellant agrees with the Examiner that Kaplan does not teach using near-field optics, and Kaplan cannot therefore reasonably be said to provide reading micro-discrete indicia using near-field optics.

Further, in discussing a combination of Kaplan and Kurihara, the Examiner states that it would have been obvious to “modify Kaplan’s method of providing micro-discrete indicia on gemstones . . . to provide the reading . . . of micro-discrete indicia using near-field optics. This would improve processing . . .” However, the need to “improve processing,” (i.e., improve NOM performance), is

what Kurihara teaches is the benefit of the Kurihara invention itself, and not a motivation to combine with Kaplan. The Examiner must show some objective teaching leading to the combination. *In re Fine*, 837 F.2d 1071, 1075, 5 USPQ2d 1596, 1600 (Fed. Cir. 1988). It is respectfully submitted that there is no such objective teaching in Kaplan that leads “to the combination” of Kaplan with Kurihara, and the Examiner has pieced together aspects purportedly found in the prior art to arrive at the invention through hindsight. As stated by the Federal Circuit:

“Combining prior art references without evidence of such a suggestion, teaching, or motivation simply **takes the inventor’s disclosure as a blueprint for piecing together the prior art to defeat patentability--the essence of hindsight.**”

*In re Dembiczak*, 50 USPQ2d 1614, (Fed. Cir. 1999) (citing *Interconnect Planning Corp. v. Feil*, 774 F.2d 1132, 1138, 227 USPQ 543, 547 (Fed. Cir. 1985); emphasis added).

As such, there is no basis in the references themselves to motivate a person skilled in the art to combine the Kaplan reference with the Kurihara reference.

#### **b. CONCLUSION**

Therefore, Appellant respectfully submits that independent claims 1-8 are patentable over the cited references. Because claims 2-8 depend from claim 1 and include the features recited in the independent claim as well as additional features, Appellant respectfully submits that claims 2-8 are also patentably distinct over the cited references.

4. **CLAIM 3 IS PATENTABLE OVER KAPLAN IN VIEW OF KURIHARA BECAUSE KAPLAN AND KURIHARA, ALONE OR IN COMBINATION, DO NOT DISCLOSE EXPRESSLY OR INHERENTLY AT LEAST LOCATING MICRO-DISCRETE INDICIA USING PREDETERMINED COORDINATES ASSOCIATED WITH THE INDICIA ON A GEMSTONE.**

Kaplan fails to teach or suggest at least that micro-discrete indicia is located by using predetermined coordinates associated with the indicia on said gemstone. Rather, Kaplan merely discloses a translation stage for positioning a workpiece as to be able to focus laser energy onto a desired portion of the workpiece. Kaplan discloses that the stage is translatable in a Cartesian coordinate system including the X, Y and Z-axes. Col. 4, line 42 – Col. 5, line 4. The XYZ positioning system 50 merely moves the workpiece 11. Col. 16, lines 44-46; Fig. 9.

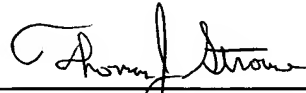
Kurihara fails to remedy the deficiencies of Kaplan as Kurihara fails to teach or suggest at least that micro-discrete indicia is located by using predetermined coordinates associated with the indicia on said gemstone. As discussed above, Kurihara does not locate and read micro-discrete indicia.

Thus, neither Kaplan nor Kurihara teach, expressly or inherently, that micro-discrete indicia are located by using predetermined coordinates associated with the indicia on a gemstone. Therefore, Appellant respectfully submits that claim 3 is patentable over Kaplan and Kurihara.

**Summary**

For the above reasons, Appellant respectfully requests that the Board of Patent Appeals and Interferences reverse the rejection by the Examiner and mandate the allowance of Claims 1-8.

Respectfully submitted,



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Enclosures

If the Examiner is unable to reach the Appellant(s) Attorney at the telephone number provided, the Examiner is requested to communicate with Eastman Kodak Company Patent Operations at (585) 477-4656.

### **Appendix I - Claims on Appeal**

1. A method for reading a micro-discrete indicia on a gemstone, comprising the steps of:  
  
    locating said micro-discrete indicia on said gemstone; and  
  
    reading said micro-discrete indicia using near-field optics.
2. A method according to claim 1 wherein said micro-discrete indicia is located initially located using an eye-loop and/or a microscope.
3. A method according to claim 1 wherein said micro-discrete indicia is located by using predetermined coordinates associated with the indicia on said gemstone.
4. A method according to claim 3 where a document is provided that designates the appropriate coordinates of the micro-discrete indicia of said gemstone.
5. A method according to claim 4 wherein said characteristics of said gemstone is selected from one of the following:  
  
    size, type of gemstone, facet, manufacturer, retailer, and/or owner.

6. A method according to claim 1 wherein said micro-discrete indicia is used for authenticating an occasion of said gemstone.

7. A method according to claim 6 wherein said authentication identifies the manufacturer, owner, retailer, quality, and/or type of gemstone.

8. A method according to claim 1 wherein said locating of said indicia on said gemstone is provided by scanning said gemstone.